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Approval # 20050001

Environmental & Regulatory Services Division
Bureau of Petroleum Products and Tanks
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

# Wisconsin COMM 10 Material Approval

Equipment: US Test Model 2001

Manufacturer: Southwest Environmental Services, Inc.
13901 North 73rd St.
Ste 203
Scottsdale, AZ 85260

Expiration of Approval: December 31, 2010

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**SCOPE OF EVALUATION**

The US Test Model 2001 Automatic Tank Gauging (ATG) System manufactured by Southwest Environmental Services, Inc., was evaluated as a means of monthly monitoring and tightness testing for underground tanks in accordance with **s. Comm 10.61 (4) and s. Comm 10.61 (3).**

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – Comm 10.

## DESCRIPTION AND USE

The US Test Model 2001 consists of a console, PC interface and ultrasonic probe. The system has the capability to detect water in the tank and provide level correction for temperature effects.

The US Test Model 2001 console and probe may be used on tanks that contain gasoline, diesel, aviation fuel, and other liquids with known coefficients of expansion and density with manufacturer approval.

## TESTS AND RESULTS

Testing of the US Test Model 2001 for monthly monitoring and tank tightness testing was conducted in accordance with the EPA Automatic Tank Gauging Systems protocol. When using a leak declaration threshold of 0.10 gph, the probabilities of detection of a leak of 0.20 gph, was certified to within the 95-5 ranges required by the EPA protocols. When using a leak declaration threshold of 0.05 gph, the probabilities of detection of a leak of 0.10 gph, was certified to within the 95-5 ranges required by the EPA protocols.

## MONITORING SYSTEM OUTPUT

Detailed here is an example of the typical Tank Leak Report.

[redacted] Phone: [redacted]

MONTHLY PRECISION TANK TIGHTNESS TEST REPORT (V 2.4b)

Tank Information

| Tank Number | | 1 | 2 | 3 |
|---|---|---|---|---|
| Description | | NO LEAD | PREMIUM | KEROSENE |
| Fuel Type | | Gasoline-Low | Gasoline-Hi | Kerosene |
| Diameter | (in) | 96 | 96 | 64 |
| Capacity | (gal) | 10055 | 10030 | 2033 |
| Fuel Level | (in) | 82.64 | 51.76 | 52.00 |
| Percent Full | | 92 | 55 | 87 |

Test Results

| | | | | |
|---|---|---|---|---|
| Start Date | | 01/28/99 | 01/05/99 | 01/09/99 |
| Start Time | | 01:01:44 | 01:02:17 | 01:01:49 |
| Duration | | 03:40:13 | 03:55:58 | 04:54:19 |
| Temp Rate | (F/hr) | 0.052 | 0.043 | 0.100 |
| Threshold | (gal/hr) | +/- 0.10 | +/- 0.10 | +/- 0.10 |
| Leak Rate | (gal/hr) | -0.019 | -0.026 | 0.060 |
| Pass/Fail | | Passed | Passed | Passed |

Manager:_____ Signature: _____ Date: 01/28/99

**Typical Tank Leak Report**

## LIMITATIONS / CONDITIONS OF APPROVAL

### *General*

- All monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer instructions, and certified every 12 months for operability, proper operating condition, and proper calibration. Records of sampling, testing, or monitoring shall be maintained in accordance with **Comm 10.625**.

- The manufacturer shall submit for a revision to this Wisconsin Material Approval application if any of the functional performance capabilities of this equipment are revised. This would include, but not be limited to changes in software, hardware, or methodology.

- While 3rd party testing does determine a required minimum tank level, EPA leak detection regulations require testing of the portion of the tank system which routinely contains product. Consistent testing at low levels could allow a leak to remain undetected.

  During leak testing, a minimum level of product in tank shall be maintained so as to ensure testing of the portion of the tank and/or piping that routinely contains product, regardless of testing system capability. For instance, if product levels are routinely maintained at 60%, but the leak detection system is capable of testing at 15% product level, then testing shall be performed at 60% levels.

- If performing a tank tightness test, minimum tank level shall be 95%, regardless of leak detection system minimum capability, in accordance with **Comm 10.61 (3)**.

- All equipment shall be installed, operated and maintained in accordance with procedures specified by Southwest Environmental Services, Inc.

### *US Test 2001 Tank Monitor Automatic Tank Gauge*

- Critical performance parameters for 0.1 gph and 0.2 gph testing: (Ultrasonic probe)

| Parameter | Value |
|---|---|
| Maximum Tank Size[1] | **Up to 15,000 gallons** |
| Minimum Product Level | **50 %** |
| Waiting time between filling tank and test start[2] | **4 Hours** |
| Waiting time between dispensing and test start | **15 Minutes** |
| Minimum Test Period[3]. | **30 Minutes** (0.2 gph)<br>**1 Hour** (0.1 gph) |

1: Monthly and annual testing can only be performed on one tank at a time. If several tanks are manifolded together, an isolation valve will have to be installed so as to separate the tanks individually.
2: There must be no delivery during waiting time.
3: There must be no delivery or dispensing during testing.

This approval will be valid through December 31, 2010, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

## DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Effective Date: January 1, 2005

Reviewed by: _____

Greg Bareta, P. E.
Engineering Consultant
Bureau of Petroleum Products and Tanks

Approved by: _____ Date: _____